PRODUCT SUMMARY 1964

TIME CODE GENERATORS

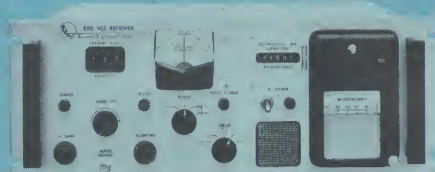6 models.........................see page 2
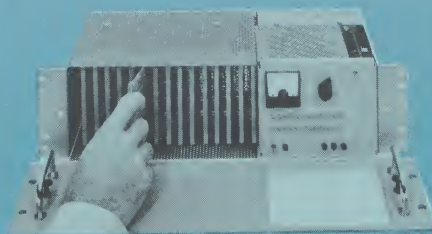
TIMING SYSTEM AUXILIARY EQUIPMENT

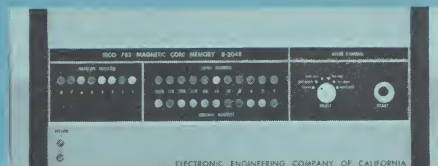drivers and displays.........................page 2

TIME DISPLAY UNITS

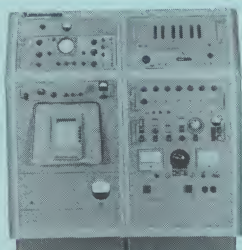for location of data on magnetic tape.........................page 2

VLF RECEIVERS

for correction of local oscillator deviation.........................page 3

DATA HANDLING EQUIPMENT

converters, adapters, memories, time recorder.........................page 3

BALLISTIC CAMERA SYNCHRONIZING SYSTEM

. . . enables synchronization of widely separated astro-cameras....page 3
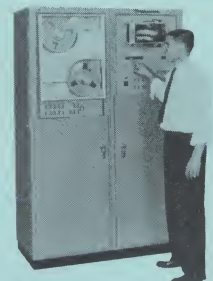
FORMAT CONTROL BUFFER

. . . prepares blocked computer tape from asynchronous digital data....page 3

SEARCH and CONTROL SYSTEMS

automatic location of data on magnetic tape.........................page 3

TEST SOCKETS

and Relay Tester.........................page 4
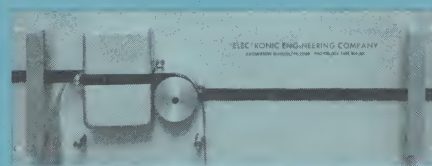
PUNCHED TAPE BLOCK READERS

and Tape Spoolers.........................page 4

INFORMATION ABOUT THE MANUFACTURER.........................page 4

Electronic Engineering Company
of California

TIME CODE GENERATORS
...5 x 10⁻⁹ oscillator stability... long life NIXIE indicators... models for all standard code formats:

| CODE	FRAME LENGTH	SCAN RATES	CARRIER FREQUENCY	PULSE RATES	MODEL NUMBER
Hours, minutes, seconds, 24-bit BCD	1 sec	25, 50 or 100 pps	1 kc	8 rates from 100 k pps to 1 pps	EECO 806
AMR, B_1, B_2, C_1, C_2, D_1, D_5, hours, minutes, seconds, 17-bit binary	20 sec 1 sec 1 sec	1 pps 20 pps 100 pps	1 kc	7 rates from 100 k pps to 1 pps	EECO 807
Hours, minutes, seconds, 20-bit BCD	1 sec	25 pps	250 cps	None	EECO 808
IRIG Formats A, B, C, D. Days, hours, minutes, seconds. 34-bit, 30-bit, 23-bit, 16-bit BCD	0.1 sec 1 sec 1 min 1 hr	1000 pps 100 pps 2 pps 1 ppm	10 kc 1 kc 1 kc or 100 cps 1 kc or 100 cps	1 mc, 10 pps, 1 pps	EECO 811
NASA Formats Days, hours, minutes, seconds, 36-bit, 28-bit, 20-bit, BCD	1 second 1 minute 1 hour	100 pps 2 pps 1 ppm	1 kc 1 kc or 100 cps 100 cps	1 mc, 1 pps	EECO 812
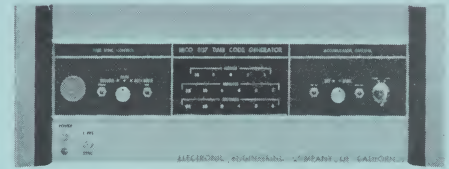
EECO 807

EECO 811

TIME CODE GENERATOR/READER

| Generates and displays 20-bit 24 hour time code. Reads and displays days, hours, minutes and seconds portion of IRIG B format. Simultaneous slow code output for graphic recorders.					
Combination TCG and Time Display. Modified IRIG B hours, minutes, seconds. 20-bit BCD	1 sec Slow code: 5 sec or 1 min	100 pps 10 pps 1 pps	1 kc — —	1000 pps, 100 pps, 10 pps, 1 pps	EECO 858
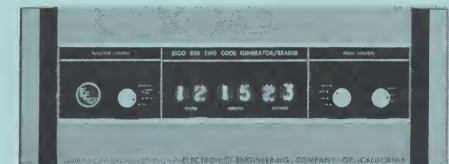
TIMING SYSTEM AUXILIARY EQUIPMENT

DESCRIPTION	MODEL NUMBER
Relay Driver. Seven separate inputs driving seven output relays. Pulse rates up to 100 pps.	EECO 861
A-C Line Driver. Twelve-channel AC amplifier for distribution of modulated time codes.	EECO 863
D-C Line Driver. Twelve-channel driver for level shift time codes or pulse rates.	EECO 864
Count Down Clock. Displays the time in hours, minutes and seconds before zero or "fire" time and after zero time. 5 digits and sign.	EECO 32575
Remote Time Display Units. Wall or rack mounting units to display time. Input either parallel or serial time code.	EECO 865 EECO 866 EECO 867
Neon Distribution Amplifier. Amplifier for driving 24 camera neon lamps for displaying serial time code on motion picture film. Readily drives NE2J neons.	EECO 870
Terminal Timing Unit. Modifies basic timing codes into variety of special codes, pulse rates and amplfied outputs for use by various instrumentation.	EECO 875

EECO 870
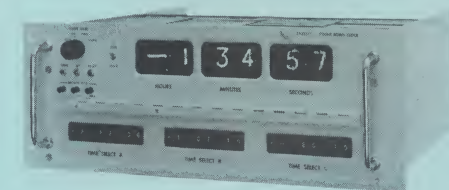
EECO 32575

TIME DISPLAY UNITS
for displaying time recorded on magnetic tape

| These units read and display time from magnetic tape units operating at high or low speed in either forward or reverse direction. Used for data searching with manual control of the tape unit.	
DESCRIPTION	**MODEL NUMBER**
Displays IRIG, NASA and other BCD time codes. AMR decoder available.	EECO 851
Displays IRIG, NASA, AMR, PMR and other time codes using plug-in decode modules.	EECO 855

SEARCH AND CONTROL SYSTEMS
for Magnetic Tape Recorders

Search and Control Systems automatically control analog tape recorders to search at high speed in either direction for selected portions of data on magnetic tape. The data on the tape is identified by a time code. This time code is displayed during search and playback.


EECO 831

DESCRIPTION	MODEL NUMBER
Automatic search system. Reads IRIG Formats A, B and C, NASA 36 and 28-bit and other BCD time codes. Selection of time code formats by front panel switch and simple patch connector change. Decoder unit for AMR D-5 is among standard options.	EECO 831
Automatic Universal search system. Reads IRIG, NASA, AMR, PMR, and other time codes. Selection of time codes by plug-in decode modules.	EECO 835
Combination time code generator and automatic search and control. Generates and reads 20-bit, 24 hour time code, modified IRIG B Format. Simultaneous slow code for graphic recorders.	EECO 858/859
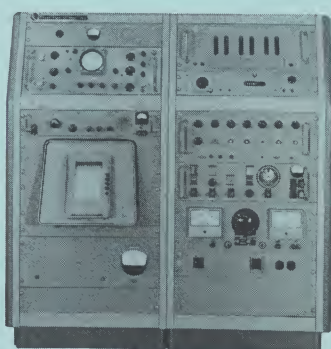
BALLISTIC CAMERA SYNCHRONIZING SYSTEM

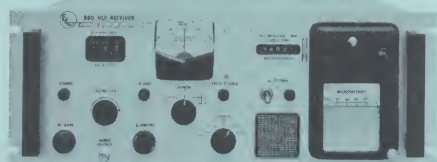| DESCRIPTION	MODEL NUMBER
Enables precision synchronization of camera exposures at installations spaced hundreds of miles apart. Used for photographing missiles, satellites and stars. Controls the exposures of modified Wild-Heerbrugge camera.	ZA-31550

DATA HANDLING EQUIPMENT
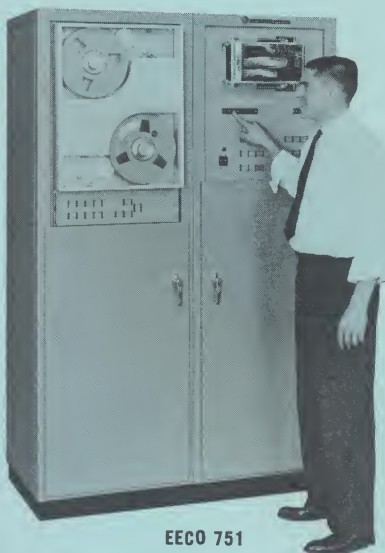
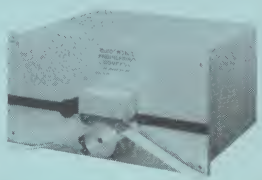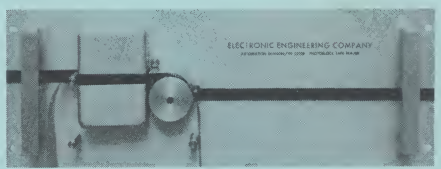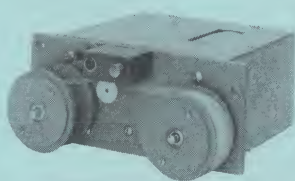| DESCRIPTION	MODEL NUMBER
Format Control Buffer. Converts synchronous or asynchronous digital data to computer format. Inserts time and ID data without loss of input data. Writes a magnetic tape ready for computer use. IBM, Univac, RCA and other formats available.	EECO 751
Magnetic Tape Adapter. Provides for reading and writing GE ERMA and GE magnetic tapes from IBM 1401 Computer.	EECO 754
Analog-to-Digital Converter Up to 12 bits binary or 3 decimal digits and sign — 44 kc to 25 kc sample rate. Up to 10 bits binary or 3 decimal digits — 15 kc to 25 kc sample rate.	EECO 760A EECO 761
Shaft Angle Translator. Converts output from optical shaft angle encoder to degrees of angle. Both visual display and BCD outputs available.	EECO 780
Random Access Memory. 200 kc ferrite core memory for data processing systems. Eight level — 128 to 4096 characters	EECO 781
Sequential Access Memory. Same as EECO 781, but with the addition of an address counter.	EECO 782
Sequential Interlace Memory. Same as EECO 781, but with the addition of two address counters for simultaneous loading and unloading.	EECO 783
Datachron computer Time Clock. Accurately logs computer time. Plug-in connection to IBM 1401, 1410, 7070, etc.	EECO 790
Computer Paper Tape Reader. Inexpensive plug-in paper tape reader for IBM 1401 computer.	EECO 795

EECO 751

VLF RECEIVERS

DESCRIPTION	MODEL NUMBER
Compares and corrects output frequency of local oscillator with reference to VLF carrier. Plots frequency deviation. Tunes 181 channels from 12 kc to 30 kc. 60 kc channel is standard option.	EECO 880
Military version of EECO 880.	EECO 880 MIL

PUNCHED TAPE BLOCK READERS

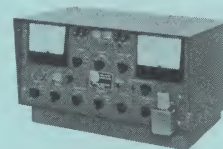| DESCRIPTION	MODEL NUMBER	
Reads up to 160 bits in each frame. Bi-Directional tape drive, 4 to 12 frames per second. 250 MA per contact.	TP 4000 Series	
Reads up to 160 bits in each frame. Photo electric reading. Bi-Directional tape drive, 5 to 12 frames per second. Up to 1.5 MA current per bit or voltage level shift.	PR 2000 Series	
Line reader programmer for airborne use. Less than 6 lbs. Reads 100 feet of 8-level punched tape.	TP 531 W	

Paper Tape Spooler. Bi-Directional — 8″ reels — up to 15 ips.	**TS-400**	
Relay Tester. For rapid test of pull-in and drop-out voltage and current, contact resistance, coil resistance, etc.	**RT 905**	
Test Sockets. Dual contact test sockets for all standard relays using solder type terminals.	**Ask for Catalog AS-3**	

ABOUT THE
MANUFACTURER

Electronic Engineering Company specializes in the type of products shown on the preceding pages . . . data processing equipment and systems, timing systems and instrumentation control. In addition, it designs and manufactures special systems and products. EECO is also well equipped and experienced to manufacture prototypes and to make small quantity runs of products and systems.

EECO's digital circuit "building-block" modules are manufactured and stocked by a separate division, Engineered Electronics Company. In addition to off-the-shelf modules, this division handles custom circuit projects, and builds special welded circuits.

The EECO divisions are located on a 19-acre site in Santa Ana, with offices and representatives in all of the nation's electronic areas.

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U. S. Coast & Geodetic Survey
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and many others

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